

Platform LSF® Process Manager

Automated Workflow Management for Platform LSF® Clusters

Highlights

- Reliable time-based scheduling
- Automate complex job dependencies
- Save administrative time and effort
- Improve process speed and reliability
- Maximize resources and save cost
- Automate exception handling
- Scale seamlessly
- Improve script maintainability

Features

- Intuitive “drag & drop” graphical interface
- Support for rich conditional logic
- Multiple users/multiple instances
- Calendar and event based scheduling
- Heterogeneous workflows
- Exception handling and alarms
- Re-usable sub-flows

Unleash the Power of Workflow Automation and Scheduling

Platform LSF users appreciate the importance of efficiency – by harnessing the power of clustered computers, long-running jobs and simulations that previously took hours can often be run in minutes providing unprecedented levels of productivity and efficiency.

To really save time however, busy professionals need more than just a fast and agile computing infrastructure – they need tools that help them reduce their workload by automating recurring tasks. Whether the need is to run regression tests to validate a new candidate drug, compile an end-of-day financial report to quantify exposures, or simply to run a job at a particular time, most organizations have processes and workflows that would benefit from automation.

Platform LSF Process Manager – Platform LSF Process Manager is a grid-aware scheduling and workflow solution for Platform LSF. A Calendar Manager allows user and system defined calendars to be combined in sophisticated ways so that workflows or individual jobs can be run automatically at pre-defined times. A Flow Editor allows designers to describe workflow steps and dependencies using an intuitive graphical interface. The Flow Manager is used at run time to launch and monitor the progress of one or more workflows on a Platform LSF managed cluster through a similar graphical tool. Technical users will appreciate the XML-based file formats and the rich command set that allows time-dependent jobs or flows to be triggered and managed through scripts as an alternative to the graphical interface.

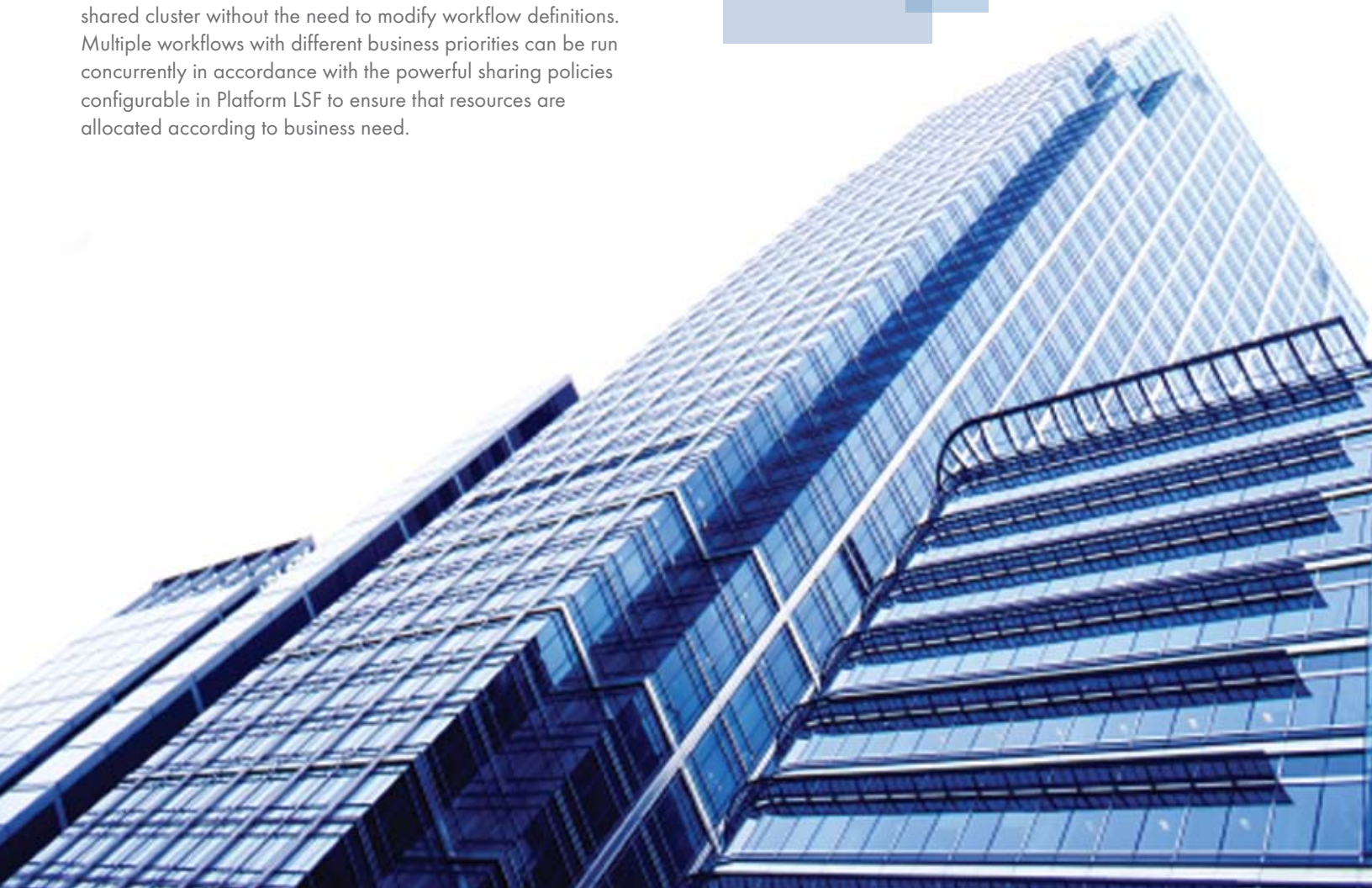


Run Critical Workflows with Confidence – Platform LSF Process Manager helps eliminate the most probable causes of failure – human error. Because the system incorporates sophisticated error handling and conditional logic, once a flow is started, the workflow administrator can move to the next task knowing that the flow will complete as planned despite unanticipated hardware or software failures. If there is a problem that it cannot resolve, Platform LSF Process Manager can provide alerts by e-mail to pagers, or raise an alarm through an existing management system. Sophisticated exception handling, the inherent reliability of Platform LSF, and automated and transparent fail-over capabilities, combine to ensure that critical deadlines are met without operator intervention.

Grid-aware Workflow Management – Unlike traditional workflow solutions where host selection needs to be made in advance, Platform LSF Process Manager allows dynamic host selection at run-time – this is important because it makes workflows resilient and flexible. Platform LSF Process Manager allows needed resources to be described qualitatively. By removing the need to associate individual hosts with particular process steps, workflows that would otherwise be “brittle” and failure-prone, are made reliable and flexible. Workflows can scale dynamically and seamlessly as nodes are added to a shared cluster without the need to modify workflow definitions. Multiple workflows with different business priorities can be run concurrently in accordance with the powerful sharing policies configurable in Platform LSF to ensure that resources are allocated according to business need.

Simplify your Environment – Platform LSF Process Manager can help you streamline processes that previously defied scripting or automation. In-house developed scripts with hard-coded job sequences can be simplified dramatically. By minimizing scripting, workflows become self-documenting making workflow logic easier to follow and they also become more cost effective to maintain. Platform LSF Process Manager workflows can even be triggered by other Enterprise Workflow Management Systems allowing Platform LSF Process Manager to integrate seamlessly with existing tools.

Whether you need a more flexible alternative to cron, want to simplify scripting, or need to reduce administration effort and help guarantee the timely completion of business critical jobs and workflows, Platform LSF Process Manager is an excellent solution that addresses a variety of needs.





Features

Benefit

Automate the scheduling and execution of workflows across a global, virtualized heterogeneous environment

- Design, monitor and control complex workflow-oriented processes as if they were a single task
- Eliminate the need for manual intervention to schedule and manage processes
- Exception handling features and dynamic host selection ensures that flows can keep run and recover from individual host hardware or software failures.
- Flows can be comprised of tasks running on multiple operating systems and machine architectures as part of a heterogeneous Platform LSF cluster

Intuitive graphical interface

- The Java-based Flow Editor provides “drag and drop” functionality allowing self-documenting flows and sub flows to be designed and maintained in a library for re-use
- The companion flow manager optionally provides a visual process indicator allowing multiple administrators to view the progress of executing workflows
- Easy-to-use interface for rapid design and deployment
- Greater flexibility to modify batch processes after the initial design for continuous improvement

Simplify scripting/improve maintainability

- Avoid complex shell scripts that hard-code process steps and dependency checks
- Platform LSF Process Manager makes processes self-documenting ensuring that workflows are easily modified and maintained with only a minimal amount of scripting
- A rich command set allows workflows designed using graphical tools to be triggered from existing scripts

Harness the Power of HPC

- Opportunities for parallelism are exploited automatically and seamlessly resulting in faster workflow execution
- Because Platform LSF resource requirements may be used rather than specifying individual hosts, workflows are made flexible and reliable
- Workflows are made more reliable by avoiding failed or busy hosts automatically



Features	Benefit
Rich conditional logic	<ul style="list-style-type: none"> • Flexible environment to manage dependencies such as time, event, calendar, or custom data • The flow editor allows workflow designers to employ conditional logic in conjunction with time-based triggers, dependencies and exception handling logic to control the path of a workflow comprised of jobs, job arrays and sub flows <ul style="list-style-type: none"> ○ Time based events ○ File events ○ Proxy events ○ Link events ○ Job status on exit
Calendar and event-based scheduling and customizable calendaring	<ul style="list-style-type: none"> • Flexible time-sensitive management of complex business processes • Support for complex expressions such as “every second Monday unless it is a statutory holiday and the first Sunday of each new quarter” or specific dates entered in the graphical calendar • Can replace or augment UNIX/Linux “cron” facilities or Microsoft Windows OS level scheduling facilities
Exception handlers and alarms	<ul style="list-style-type: none"> • Proactively resolves failed job steps and alerts key personnel of critical events or requirements for manual intervention in real-time • Integrate with existing system management tools
Multi-user/multi-instance architecture	<ul style="list-style-type: none"> • Multiple instances of the Platform Process Manager Server component can be run on one cluster • Multiple users of the Calendar Manager, Flow Editor and Flow Managers GUIs can select the Platform LSF Process Manager Instance that they are running against

Platform™

Platform Computing is a pioneer and the global leader in High Performance Computing (HPC) infrastructure software. The company delivers integrated software solutions that enable organizations to improve time-to-results and reduce computing costs. Many of the world's largest companies rely on Platform for workload management and cluster and grid management. Platform has over 2,000 global customers and strategic relationships with Dell™, HP, IBM®, Intel®, Microsoft®, Red Hat® and SAS®, along with the industry's broadest support for HPC applications. Building on 15 years of market leadership, Platform continues to define the HPC market. Visit www.platform.com

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